

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

Title V draft No. V-99-032
OSRAM SYLVANIA PRODUCTS INC.
VERSAILLES, KY.
June 1, 2000
APRIL J. WEBB / REBECCA T. CASH REVIEWER
Plant I.D. # 102-4140-0013
Application Log # F452

SOURCE DESCRIPTION:

The process at the lamp production source starts with washing the glass tubes with deionized water. The insides of the tubes are coated with a water / phosphor based solution. Rotating brushes scrape off excess coating at the end of the tubes. The tubes are then transferred on a conveyor belt to a natural gas fired baker where the coating is baked into the tube in the presence of sulfur dioxide. After the baker unit, the end of the tubes are fitted with cathode fixtures, in which, the filament and a narrow glass tubing are fitted into the tube. A vacuum pump is used to evacuate the tube, where it is purged with nitrogen followed by argon gas. Mercury is then injected and evaporated out of the tube. The tubes are then molded to shape and sent to the base fill line. At the base fill, the tubes are mounted with bakelite and sent to the automount division and fitted with the cathode.

The mercury limitations was calculated using maximum ground level concentration derived from the Screen 3 model. The Screen 3 model was run due to discrepancy in previous mercury limitations.

Using conservative numbers for lead emission and modeling, the emissions are projected to cause ambient concentrations well below the standards and therefore no testing will be required.

COMMENTS:

Baghouse, Electric Precipitator, Activated Carbon, Tube Shell Condenser, Centrifuge: All efficiencies are 95-98 % efficient.

Emission factors came from appropriate sections of AP 42 and previously approved emission factors.

APPLICABLE REGULATION:

Applicable regulation: 401 KAR 50:035, 401 KAR 59:010, 401 KAR 59:105, 401 KAR 61:015, 401 KAR 61:020, 401 KAR 61:035, 401 KAR 63:020.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

Periodic Monitoring:

For emission points AF, AG, 02-10, 12, 15-17, 31, 32, 35-40, 42-45, 48, 50-54, 56-58, and 60 the permittee shall monitor the following:

a) To provide reasonable assurance that the visible emission limitations are being met the permittee shall:

- i) Perform a quarterly opacity reading, or more frequent if requested by the Division, from each stack or vent using Reference Method 9. Opacity readings shall be conducted while the emission units are in operation
- ii) Perform a daily qualitative visual observation of the opacity of emissions from each stack/vent and maintain a log of the observation. The log shall note:
 - 1) Whether any air emissions (except for water vapor) were visible from the vent/stack,
 - 2) All emission points from which visible emissions occurred, and
 - 3) Whether the visible emissions were normal for the process.
- iii) Determine the opacity of emissions by Reference Method 9 if visible emissions from any stack/vent is perceived or believed to exceed the applicable standard.

To provide reasonable assurance that the particulate matter emission limitations (PM and PM₁₀) are being met, the permittee shall monitor the amount and type of process weight added to each particulate matter emissions unit. The 3-hour average process weight rate shall be determined by dividing the total tons added to the emission point each month by the hours of operation for the corresponding month. Average particulate emissions shall be calculated as follows:

$$PE = (PW \times PEF)$$

Where PE = Particulate emissions in lbs./hr, PW = process weight in tons/hr, and PEF = particulate emission factor in lbs./ton of process weight. Throughput limits shall be monitored to ensure compliance with the emission limitations calculated above.